**USE CASE SPECIFICATIONS:**

1. **REPORT INCIDENT-**
   1. Description – The most basic function of the on-spot accident reporting system, to report incident.
   2. Actors – Civilian
   3. Pre-Condition – GPS system and the camera of the device should be working.
   4. Basic Flow of interaction–

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| --- | --- | --- |
|  | Actor | System |
| 1.4.1 | Clicks on Report Incident button | Display input screen |
| 1.4.2 | Enters data input | Activates GPS location of the device and opens camera. |
| 1.4.3 |  | Asks to click photos |
| 1.4.4 | Clicks accident site photos. | Asks for additional information. |
| 1.4.5 | Enters additional information.  (Optional) | Asks for confirmation. |
| 1.4.6 | Confirms and submits. | Registers the incident on the Database. Queued for authentication. |
| 1.4.7 |  | Display message “Incident Successfully reported” |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 1.4.5.1 | Skips entering additional information. | Registers the incident on the Database. Queued for authentication. |
| 1.4.7.1 | Cancels the reporting | Redirects to 1.4.1 |

* 1. Post-condition – Display message “Incident Reported” and report reference is generated and incident is queued for authentication.
  2. Special Conditions – Same incident reported twice must be traced via GPS.
  3. Other Specifications-
     1. Frequency of use- High
     2. Complexity of use- Simple

1. **LOGIN-**
   1. Description – Provides an option for various actors to login.
   2. Actors – Police, Transport Authority, Ambulance, Insurance Company, Citizen.
   3. Pre-Condition – Actors must be Registered.
   4. Basic Flow of interaction–

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| --- | --- | --- |
|  | Actor | System |
| 2.4.1 | Clicks on Login. | Provides three options: Authority Login, Citizen Login, Insurance Company. |
| 2.4.2 | Actors selects one of the option accordingly. | According to chosen option redirects to different use case according to actors. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 2.4.2.1 | User does not select any of the options provided and reverts back. | Redirects to Authenticate User. |

* 1. Post-condition – All use cases are accessible depending on the user.
  2. Special Conditions – High security regarding user profiles.
  3. Other Specifications-
     1. Frequency of use- Low
     2. Complexity of use- Simple

1. **REGISTER-**
   1. Description – Gives an option for new user to register.
   2. Actors – Police, Transport Authority, Ambulance, Insurance Company, Citizen.
   3. Pre-Condition – Application must be preinstalled and actor must be on home window.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 3.4.1 | Clicks on Register user. | Provides three options: Authority Registration, Citizen Registration, Insurance Company Registration. |
| 3.4.2 | User selects one of the three options provided. | According to chosen option provides registration data fields to be filled up. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 3.4.2.1 | User does not select any of the options provided and reverts back. | Redirects to home page without any changes. |

* 1. Post-condition –Login use case is functional for the registered user.
  2. Special Conditions – Data fields must contain valid data input.
  3. Other Specifications-
     1. Frequency of use- Low
     2. Complexity of use- Simple

1. **AUTHORITY LOGIN-**
   1. Description – Login for Authorities.
   2. Actors – Police, Transport Authority, Ambulance.
   3. Pre-Condition – Actor must be Authority Registered.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 4.4.1 | Clicks on Authority login. | Display Authority Login Screen |
| 4.4.2 | Enter user name and password. | Check input validity |
| 4.4.3 |  | Search username in DB |
| 4.4.4 |  | Authenticate Username and password |
| 4.4.5 |  | Display login Successful. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 4.4.2.1 | User enters invalid details. | Shows “Invalid Login Details” ,Continue 4.4.2 |
| 4.4.3.1 |  | Display “Invalid username” |
| 4.4.4.1 |  | Display “Username and password do not match”, redirect to 4.4.2 |

* 1. Post-condition – All use case functionalities for Authorized User are displayed.
  2. Special Conditions – Single user should be logged in a single session.
  3. Other Specifications-
     1. Frequency of use- Low
     2. Complexity of use- Simple

1. **CITIZEN LOGIN-**
   1. Description – Login for Citizens.
   2. Actors – Citizen.
   3. Pre-Condition – Citizen must be registered to Login.
   4. Basic Flow of interaction–

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| --- | --- | --- |
|  | Actor | System |
| 5.4.1 | Clicks on citizen login. | Requirement of user id and password. |
| 5.4.2 | User provides user name and password. | Verify and logs in the user successfully. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 5.4.2.1 | User enters invalid details. | Shows “Invalid Login Details” ,Continue 6.4.2 |
| 5.4.2.2 | Clicks on forgot password. | Verifies through OTP. |

* 1. Post-condition – Home page is displayed.
  2. Special Conditions – Login doesn’t affect the use case functionality of Citizen.
  3. Other Specifications-
     1. Frequency of use- Very low
     2. Complexity of use- Simple

1. **INSURANCE COMPANY LOGIN-**
   1. Description – Login for insurance company.
   2. Actors – Insurance Company.
   3. Pre-Condition – Insurance Company must be Registered.
   4. Basic Flow of interaction–

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| --- | --- | --- |
|  | Actor | System |
| 6.4.1 | Clicks on Insurance Company login. | Requirement of user id and password. |
| 6.4.2 | User provides user name and password. | Verify and logs in the user successfully. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 6.4.2.1 | User enters invalid details. | Shows “Invalid Login Details” ,Continue 7.4.2 |
| 6.4.2.2 | Clicks on forgot password. | Verifies e-mail and resets password. |

* 1. Post-condition –All Use case functionalities of Insurance Company are displayed.
  2. Special Conditions – High security of login credentials.
  3. Other Specifications-
     1. Frequency of use- Moderate
     2. Complexity of use- Simple

1. **AUTHORITY REGISTRATION-**
   1. Description –Registration of Authority Users.
   2. Actors – Police, Transport Authority, Ambulance.
   3. Pre-Condition – Actor must have a valid ID from any of the mentioned departments/services.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 7.4.1 | Clicks on Authority Registration. | Input details data fields form is generated. |
| 7.4.2 | User fills the requires details and submits. | Checks the validity of input |
| 7.4.3 |  | Checks in DB if user already registered |
| 7.4.4 |  | Save user details in DB |
| 7.4.5 |  | Display “Authority person successfully registered”. |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 7.4.2.1 | Invalid Input details | Display “Invalid Registration Details”. Redirects to 7.4.2 |
| 7.4.3.1 |  | Display “Username already registered”. And exit |
| 7.4.5.1 |  | Display “Registration was not successful” redirects to 7.4.1 |

* 1. Post-condition – Redirects to Login use case.
  2. Special Conditions – High security for details, password encryption.
  3. Other Specifications-
     1. Frequency of use- Moderate
     2. Complexity of use- Simple

1. **CITIZEN REGISTRATION-**
   1. Description – Registration of Citizen.
   2. Actors – Citizen.
   3. Pre-Condition – Citizen must not have been registered earlier.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 8.4.1 | Clicks on Citizen Registration. | Input details data fields form is generated. |
| 8.4.2 | User fills the requires details and submits. | Citizen successfully registered. |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 8.4.2.1 | User left mandatory fields empty and submits. | Redirects to 9.4.2 without any changes with a message “Fields cannot be left empty”. |

* 1. Post-condition – Displays citizen login page.
  2. Special Conditions – Response time must be less.
  3. Other Specifications-
     1. Frequency of use- Low
     2. Complexity of use- Simple

1. **INSURANCE COMPANY REGISTRATION-**
   1. Description – Registration of Insurance company.
   2. Actors – Insurance Company.
   3. Pre-Condition – Insurance company must not have been registered earlier.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 9.4.1 | Clicks on Insurance Company Registration. | Input details data fields form is generated. |
| 9.4.2 | User fills the requires details and submits. | Insurance company successfully registered. |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 9.4.2.1 | User left mandatory fields empty and submits. | Redirects to 10.4.2 without any changes with a message “Fields cannot be left empty”. |

* 1. Post-condition – Displays insurance company login page.
  2. Special Conditions – Registration must be renewed every 6 months.
  3. Other Specifications-
     1. Frequency of use- Moderate
     2. Complexity of use- Simple

1. **CHECK FOR POLICY HOLDER-**
   1. Description – To check for policy holders for the authenticated incidents.
   2. Actors – Insurance Company.
   3. Pre-Condition – Insurance company must be registered and logged-in.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 10.4.1 | Clicks on Check for Policy Holder | Display input screen |
| 10.4.2 | Enters policy no. or policy holder name and search for incident. | Check for validity of input |
| 10.4.3 |  | Searches the incidents in DB |
| 10.4.4 |  | Display related search result. |
| 10.4.5 | Clicks on specific search result. | Display required details of the incident. |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 10.4.2.1 | Invalid input | Display “Invalid Details”. Redirects 10.4.1 |
| 10.4.3.1 |  | Display “No result found”.  Redirects 10.4.1 |

* 1. Post-condition – Save incident details and redirect to check for policy holder use case.
  2. Special Conditions – Search result must be within a year from current date.
  3. Other Specifications-
     1. Frequency of use- High
     2. Complexity of use- Moderate

1. **AUTHENTICATE INCIDENT-**
   1. Description – Reported incidents are queued for verification.
   2. Actors – Police
   3. Pre-Condition – Incident must be reported before authentication and authority must be registered and logged-in.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 11.4.1 | Clicks on authenticate incident | Reported incident is listed. |
| 11.4.2 | Clicks on an incident | Displays the report of the selected incident |
| 11.4.3 | Verifies and clicks on authenticate. | Changes the reported incident status to authenticated incident in DB |
| 11.4.4 |  | Displays “Incident authenticated successfully” |
| 11.4.5 |  | Notifies nearby authorities of the incident. |
| 11.4.6 |  | Notifies citizen about the authenticated incident |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 11.4.3.1 | Does not authenticate the incident. | Notifies to the citizen that the incident was unauthenticated. |

* 1. Post-condition – Generates a unique case no and redirects to File and Register Use Case.
  2. Special Conditions – Auto generation of Unique case No.
  3. Other Specifications-
     1. Frequency of use- High
     2. Complexity of use- Simple

1. **NOTIFY INCIDENT-**
   1. Description – Authenticated incidents are reported to other authorities. If Police has authenticated the incident Transport authority and Ambulance must be notified accordingly.
   2. Actors – Police, Transport Authority, Ambulance.
   3. Pre-Condition – Incident must be authenticated to be notified to specific authority.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 12.4.1 | Clicks on Notify Incident. | Provides other two authorized user’s option. |
| 12.4.2 | User chooses either both or any one according to the situation. | Actors are notified accordingly with incident details. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 12.4.2.1 | Actor does not choose any option and goes back. | Redirects to 14.4.1 without any changes with a message “Notification was not sent”. |

* 1. Post-condition – Waiting for response screen is displayed.
  2. Special Conditions – Response time minimum, and maximum notification broadcast.
  3. Other Specifications-
     1. Frequency of use- High
     2. Complexity of use- Moderate

1. **FILE AND REGISTER INCIDENT-**
   1. Description – Registering the incident as a permanent record for future reference with all the required details gathered related to the incident.
   2. Actors – Police.
   3. Pre-Condition – Police must be registered and logged-in.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 13.4.1 | Clicks on File and Register Incident. | Input for Unique report id. |
| 13.4.2 | User enters the unique report id. | Input data fields regarding the incident and photos of the incident taken at the time of reporting. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 13.4.2.1 | Users enters the unique report id. | Invalid unique report id , continue 14.4.2 |

* 1. Post-condition – Shows registered incident details as a report.
  2. Special Conditions – Response time less, Concurrency.
  3. Other Specifications-
     1. Frequency of use- High
     2. Complexity of use- Simple

1. **ACKNOWLEDGE INCIDENT-**
   1. Description – As soon as the incident is notified by police, other authorities would give an acknowledgment to the same.
   2. Actors – Ambulance, Transport Authorities.
   3. Pre-Condition –There must be a notification in the queue.
   4. Basic Flow of interaction–

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| --- | --- | --- |
|  | Actor | System |
| 14.4.1 | Clicks on notification alert. | Displays notification waiting in queue. |
| 14.4.2 | Acknowledges to the incident according to distance and criticalness of incident. | Sends acknowledgement status to Police. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 14.4.2.1 | Ignores notification and refrain from acknowledging. | Prompts notification unless acknowledged or the notification queue is empty. |

* 1. Post-condition – Display navigation path to the location of accident.
  2. Special Conditions – Once acknowledged by any user Notification must be dequeued.
  3. Other Specifications-
     1. Frequency of use- Very High
     2. Complexity of use- Simple

1. **UPDATE INCIDENT-**
   1. Description – Addition, edition, deletion of already registered incident.
   2. Actors – Police.
   3. Pre-Condition – Incident must be already registered.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 15.4.1 | Clicks on Update Incident. | Input Unique incident id. |
| 15.4.2 | User enters Unique incident id. | Shows details and ask input for update. |
| 15.4.3 | Enters update details. | Saves changes and displays “Updated successfully”. |

* 1. Alternate or Exceptional flow –

|  |  |  |
| --- | --- | --- |
|  | Actor | System. |
| 15.4.3.1 | Enters invalid update details | Prompts a resubmission message. |

* 1. Post-condition – Updated incident report is displayed with changes.
  2. Special Conditions – Update conflicts must not happen.
  3. Other Specifications-
     1. Frequency of use- Low
     2. Complexity of use- Simple

1. **REVIEW INCIDENT-**
   1. Description – Records of past incidents can be viewed.
   2. Actors – Police.
   3. Pre-Condition – Record should already be existing.
   4. Basic Flow of interaction–

|  |  |  |
| --- | --- | --- |
|  | Actor | System |
| 16.4.1 | Clicks on Review Incident. | Input Unique incident id. |
| 16.4.2 | User enters Unique incident id. | Shows detailed report of the incident. |

* 1. Alternate or Exceptional flow –

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| --- | --- | --- |
|  | Actor | System |
| 16.4.2.1 | User enters Unique incident id. | “Invalid UID” Redirects to 16.4.2 |

* 1. Post-condition – Displays report in pdf format.
  2. Special Conditions – Printable report format must be generated with date and timestamp.
  3. Other Specifications-
     1. Frequency of use- Moderate
     2. Complexity of use- Simple